MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

SUPPLEMENTARY EXAMINATION

TRIMESTER 1, 2015/2016

TSE2251/TIS2211 -SYSTEMS ANALYSIS AND DESIGN

(All sections / Groups)

18 NOV 2015
9.00 AM – 11.00 AM
(2 HOURS)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 pages including this cover page.
2. This Question paper contains **FIVE** questions of **15** marks each. Answer any **FOUR** questions.
3. The distribution of marks for each question is given.
4. Write all your answers in the Answer Booklet provided.

Question 1

(a) Assume that you have a project with 12 activities labeled A-L. Each task is associated with optimistic time, most likely time and pessimistic time. Based on the information given,

(i) Derive the expected time for each activity. (3 marks)

(ii) Derive the earliest completion time (ECT), latest completion time (LCT) and the slack for each of the following tasks. Which tasks are on the critical path? (4 marks)

(iii) Draw a network diagram for the tasks shown. Highlight the critical path in the network diagram.

(5 marks)

Activity	Optimistic Time	Realistic Time	Pessimistic Time	Predecessors
A	5	7	9	-
B	2	6	10	A
C	7	9	11	B
D	7	8	15	C
E	10	12	14	B
F	11	14	17	D, E
G	2	5	8	C
H	5	6	7	F
I	5	7	15	G, H
J	4	7	10	G
K	6	8	10	I, J
L	1	2	3	K

(b) Briefly discuss how prototyping can be used in system development life cycle. (3 marks)

Continue...

Question 2

(a) A competitive strategy is the technique by which an organization attempts to accomplish its mission and objectives. Briefly discuss the following generic competitive strategies. Provide an example of each.

i. Low cost producer ii. Product differentiation iii. Product focus (niche)

(6 marks)

(b) Technical feasibility analysis takes into account various project risk factors. Explain any THREE project risk factors.

(3 marks)

(c) What is Joint Application Development(JAD), how does it differ from the traditional requirements determination methods, and what are some advantages and potential disadvantages of using JAD?

(6 marks)

Question 3

(a) What are balanced and unbalanced data flow diagrams? Provide an example for an unbalanced data flow diagram

(4 marks)

(b) Contrast the following terms:

(i) subtype and super-type

(ii) total specialization rule and partial specialization rule (4 marks)

(c) Consider the following scenario:

Mary is trying to decide which graduate programs she will apply to. She wants to study in the Southeast region of United States, but if a program is considered one of the top ten in the country, she is willing to move to another part of the United States. Mary is interested in both MBA and Master of MIS programs. An MBA program must have at least one well-known faculty member and meet her location requirements before she will consider applying to it. Additionally, any program she applies to must offer financial aid unless she is awarded a scholarship. Use a decision tree to represent this logic.

(i) Identify and list the decision logic (decision nodes) to be used to draw the decision tree for the above scenario.

(3 marks)

(ii) Using the identified decision nodes, draw the decision tree. (4 marks)

Continue...

Question4

(a) Discuss unary, binary, and ternary relationships. Provide an example of each. (6 marks)

(b) What are the criteria for a relation to be in second normal form? Describe the process to convert a 2NF design to 3NF. (4 marks)

(c) User interface is an important aspect in designing a good system. There are many interface methods through which the user can interact with the information system. Identify any THREE methods and state under what situations these methods are suitable. (5 marks)

Question 5

(a)Describe FOUR major criteria that are followed in the design of forms and reports. (4 marks)

(b) Identify and briefly describe the four types of information system installation. (6 marks)

(c) Describe the four types of system maintenance. (5 marks)

End of Question Paper